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Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Colin LOW, et al.	RE: Preliminary Amendment
Serial No.: Not yet assigned	Group: not yet assigned
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For: "METHOD OF ACCESSING SERVICE RESOURCE ITEMS THAT ARE FOR USE IN A TELECOMMUNICATIONS SYSTEM"	Our Ref:B-3472DIV2PCT 619165-5 Date: January 18, 2002

Commissioner of Patents and Trademarks
Box New Patent Application
Washington, D.C. 20231

Sir:

The above-identified application is a division of U.S. Patent Application Serial No. 09/077,795 filed June 5, 1998. Prior to examining this divisional application, please enter the following amendments as appropriate:

IN THE TITLE

Please amend the title of invention to read:

--METHOD AND APPARATUS FOR ACCESSING COMMUNICATION DATA RELEVANT TO A TARGET ENTITY IDENTIFIED BY A NUMBER STRING--

IN THE SPECIFICATION

Please amend the first paragraph on page 1 of the specification as filed (see lines 7-9 on page 1) with the amended first paragraph on page 1 of the specification, which is set forth below. (Appendix A, which is enclosed herewith, shows how the first paragraph on page 1 of the specification as filed was amended to produce the amended first paragraph on page 1 of the specification.)

This is a divisional of co-pending U.S. Serial No. 09/077,795, filed on June 5, 1998, which is the U.S. National Stage Application of PCT International Application No. PCT/GB96/03055, filed on 11 December 1996. The present invention relates to methods and apparatus for accessing communication data relevant to a target entity identified by a number string.

Please amend pages 16-18 of the specification as filed with amended pages 16-18 of the specification, which are set forth below. (Appendix A, which is enclosed herewith, shows how pages 16-18 of the specification as filed were amended to produce amended pages 16-18 of the specification.)

Internet calling party on the progress of call set to the destination telephone over the PSTN local to that telephone; this feedback need only be in terms of whether or not the call has succeeded.

According to the present invention, there is provided a method of accessing communication data relevant to a target entity identified by a number string, said method comprising the steps of:

(a) - storing in the domain name system (DNS) of the Internet records each associated with a corresponding domain name and holding an URI for locating communications data associated with the domain name, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - applying said process to the said number string identifying the target entity whereby to form the related domain name;

(c) - supplying the domain name formed in step (b) to the DNS to retrieve the URI held in the corresponding said record; and

(d) - using the URI retrieved in step (c) to access said communication data.

According to another aspect of the present invention, there is provided a method of accessing communication data relevant to a target entity identified by a number string, said method comprising the steps of:

(a) - storing in the domain name system (DNS) of the Internet records each associated with a corresponding domain name and holding an at least part-formed URL, including access

scheme and host name, of an item of communications data, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - applying said process to the said number string identifying the target entity whereby to form the related domain name; and

(c) - supplying the domain name formed in step (b) to the DNS to retrieve the at least part-formed URL held in the corresponding said record;

(d) - using the at least part-formed URL retrieved in step (c) to access said communication data.

According to a further aspect of the present invention, there is provided a method of discovering communications endpoint address data for contacting a target entity identified by a number string, said method comprising the steps of:

(a) - storing in the domain name system (DNS) of the Internet records each associated with a corresponding domain name and holding an URL of a resource that has access to multiple items of communications endpoint address data, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name, the number strings being in telephone-number form.;

(b) - applying said process to the said number string identifying the target entity whereby to form the related domain name; and

(c) - supplying the domain name formed in step (b) to the DNS to retrieve the URL held in the corresponding said record;

(d) - using the URL to access the corresponding said resource and supply it with an indicator of the desired item of communications endpoint address data, this data then being returned by the resource.

According to a still further aspect of the present invention, there is provided a method of

accessing communication data relevant to a target entity identified by a number string, said method comprising the steps of:

(a) - storing in a DNS-type database system, records each associated with a corresponding domain name and holding an URI for locating communications data associated with the domain name, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - applying said process to the said number string identifying the target entity whereby to form the related domain name; and

(c) - supplying the domain name formed in step (b) to the DNS-type database system to retrieve the URI held in the corresponding said record;

(d) - using the URI retrieved in step (c) to access said communication data.

The present invention also encompasses clients-focused methods corresponding to the above overall methods of the invention, and apparatus for implementing aspects of the methods of the invention.

IN THE CLAIMS

Please cancel Claims 1-18 as amended during International Preliminary Examination (IPE), without prejudice.

Please add the following new Claims:

19. (New) A method of accessing communication data relevant to a target entity identified by a number string, said method comprising the steps of:

(a) - storing in the domain name system (DNS) of the Internet records each associated with a corresponding domain name and holding an URI for locating communications data associated with the domain name, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - applying said process to the said number string identifying the target entity whereby to form the related domain name;

(c) - supplying the domain name formed in step (b) to the DNS to retrieve the URI held in the corresponding said record; and

(d) - using the URI retrieved in step (c) to access said communication data.

20. (New) A method according to claim 19, wherein the URI held in at least one said record is an URL including an access scheme and host address.

21. (New) A method according to claim 20, wherein said host address is a domain name.

22. (New) A method according to claim 19, wherein each said number string is in telephone-number form.

23. (New) A method according to claim 19, wherein the communications data is a communications endpoint address for the target entity.

24. (New) A method of accessing a target entity over a telephone network, in which communications data in the form of a telephone number for the target entity is accessed according to the method of claim 19, this telephone number then being used to call the target entity over the telephone network.

25. (New) A method according to claim 19, wherein the URI held in at least one said record is the URI for said communications data itself.

26. (New) A method according to claim 19, wherein the URI held in at least one said record is of functionality that has access to multiple items of communications data, step (d) involving using the URI to access said functionality and supply it with an indicator of the desired item of communications data, this data then being returned by the functionality.

27. (New) A method according to claim 26, wherein the indicator is incorporated into said URI and supplied in this form to said functionality.

28. (New) A method according to claim 26, wherein the indicator is supplied to said functionality as a separate element to said URI.

28. (New) A method according to claim 26, wherein the URI held in at least one said record is an URL including an access scheme and host address for accessing said functionality.

30. (New) A method according to claim 26, wherein each said number string is in telephone-number form.

31. (New) A method according to claim 26, wherein the communications data is a communications endpoint address for the target entity.

32. (New) A method of accessing a target entity over a telephone network, in which

communications data in the form of a telephone number for the target entity is accessed according to the method of claim 25, this telephone number then being used to call the target entity over the telephone network.

33. (New) A method of accessing communication data relevant to a target entity identified by a number string, said method comprising the steps of:

(a) - storing in the domain name system (DNS) of the Internet records each associated with a corresponding domain name and holding an at least part-formed URL, including access scheme and host name, of an item of communications data, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - applying said process to the said number string identifying the target entity whereby to form the related domain name; and

(c) - supplying the domain name formed in step (b) to the DNS to retrieve the at least part-formed URL held in the corresponding said record;

(d) - using the at least part-formed URL retrieved in step (c) to access said communication data.

34. (New) A method according to claim 33, wherein the URL retrieved in step (c) is only part-formed and step (d) involves completing the URL by adding a path element serving to distinguish the desired item of communication data from other items held on the same host.

35. (New) A method according to claim 33, wherein each said number string is in telephone-number form.

36. (New) A method according to claim 33, wherein the communications data is a communications endpoint address for the target entity.

37. (New) A method of accessing a target entity over a telephone network, in which communications data in the form of a telephone number for the target entity is accessed according to the method of claim 33, this telephone number then being used to call the target entity over the telephone network.

38. (New) A method of discovering communications endpoint address data for contacting a target entity identified by a number string, said method comprising the steps of:

(a) - storing in the domain name system (DNS) of the Internet records each associated with a corresponding domain name and holding an URL of a resource that has access to multiple items of communications endpoint address data, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name, the number strings being in telephone-number form.;

(b) - applying said process to the said number string identifying the target entity whereby to form the related domain name; and

(c) - supplying the domain name formed in step (b) to the DNS to retrieve the URL held in the corresponding said record;

(d) - using the URL to access the corresponding said resource and supply it with an indicator of the desired item of communications endpoint address data, this data then being returned by the resource.

39. (New) A method of accessing communication data relevant to a target entity identified by a number string, said method comprising the steps of:

(a) - storing in a DNS-type database system, records each associated with a corresponding domain name and holding an URI for locating communications data associated with the domain name, each said domain name being related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - applying said process to the said number string identifying the target entity whereby

to form the related domain name; and

(c) - supplying the domain name formed in step (b) to the DNS-type database system to retrieve the URI held in the corresponding said record;

(d) - using the URI retrieved in step (c) to access said communication data.

40. (New) A method according to claim 39, wherein the URI held in at least one said record is an URL including an access scheme and host address for accessing said communications data.

41. (New) A method according to claim 39, wherein each said number string is in telephone-number form.

42. (New) A method according to claim 39, wherein the communications data is a communications endpoint address for the target entity.

43. (New) A method according to claim 39, wherein the URI held in at least one said record is of functionality that has access to multiple items of communications data, step (d) involving using the URI to access said functionality and supply it with an indicator of the desired item of communications data which is then returned by the functionality.

44. (New) A method of accessing communications data for contacting a target entity, said method comprising the steps of:

(a) - forming, from a number string identifying the target entity, a domain name by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - supplying the domain name formed in step (a) to the domain name system of the Internet and receiving back from the domain name system a resource record including an URI for locating communications data associated with the domain name

(c) - using the URI received back in step (b) to access said communication data.

45. (New) A method according to claim 44, wherein the URI received back in step (b) is an URL including an access scheme and host address for accessing said communications data.

46. (New) A method according to claim 44, wherein said number string is a telephone number.

47. (New) A method according to claim 44, wherein the communications data is a communications endpoint address for the target entity.

48. (New) A method of accessing a target entity over a telephone network, in which communications data in the form of a telephone number for the target entity is accessed according to the method of claim 44, this telephone number then being used to call the target entity over the telephone network.

49. (New) A method according to claim 44, wherein the URI received back in step (b) is the URI of said communications data itself.

50. (New) A method according to claim 44, wherein the URI received back in step (b) is of functionality that has access to multiple items of communications data, step (c) involving using the URI to access said functionality and supply it with an indicator of the desired item of communications data which is then returned by the functionality.

51. (New) A method according to claim 50, wherein the indicator is incorporated into said URI and supplied in this form to said functionality.

52. (New) A method according to claim 50, wherein the indicator is supplied to said functionality as a separate element to said URI.

53. (New) A method according to claim 50, wherein the URI received back in step (b) is an URL including an access scheme and host address for accessing said functionality.

54. (New) A method according to claim 50, wherein said number string is a telephone number.

55. (New) A method according to claim 50, wherein the communications data is a communications endpoint address for the target entity.

56. (New) A method of accessing a target entity over a telephone network, in which communications data in the form of a telephone number for the target entity is accessed according to the method of claim 50, this telephone number then being used to call the target entity over the telephone network.

57. (New) A method of accessing communications data for contacting a target entity, said method comprising the steps of:

(a) - forming, from a number string identifying the target entity, a domain name by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - supplying the domain name formed in step (a) to the domain name system of the Internet and receiving back from the domain name system a resource record including an at least part-formed URL, including access scheme and host name, of an item of communications data associated with the domain name; and

(c) - using the URL received back in step (b) to access said communication data.

58. (New) A method according to claim 57, wherein the URL received back in step (b) is only part-formed and step (c) involves completing the URL by adding a path element serving to distinguish the desired item of communication data from other items held on the same host.

59. (New) A method according to claim 57, wherein said number string is a telephone number.

60. (New) A method according to claim 57, wherein the communications data is a communications endpoint address for the target entity.

61. (New) A method of accessing a target entity over a telephone network, in which communications data in the form of a telephone number for the target entity is accessed according to the method of claim 57, this telephone number then being used to call the target entity over the telephone network.

62. (New) A method of discovering communications endpoint address data for contacting a target entity, said method comprising the steps of:

(a) - forming, from a number string identifying the target entity, a domain name by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - supplying the domain name formed in step (a) to the domain name system of the Internet and receiving back from the domain name system a resource record including an URI of a resource that has access to multiple items of communications endpoint address data; and

(c) - using the URI received back in step (b) to access corresponding said resource and supply it with an indicator of the desired item of communications endpoint address data, this data then being returned by the functionality.

63. (New) A method of accessing communications data for contacting a target entity, said method comprising the steps of:

(a) - forming, from a number string identifying the target entity, a domain name by a process including parsing at least a substantial portion of the number string into at least a part of said domain name;

(b) - supplying the domain name formed in step (a) to a DNS-type database system and receiving back a resource record including an URI for locating communications data associated with the domain name; and

(c) - using the URI received back in step (b) to access said communications data.

64. (New) A method according to claim 63, wherein the URI received back in step (b) is an URL including an access scheme and host address for accessing said communications data.

65. (New) A method according to claim 63, wherein each said number string is a telephone number.

66. (New) A method according to claim 63, wherein the communications data is a communications endpoint address for the target entity.

67. (New) A method according to claim 63, wherein the URI held in at least one said record is of functionality that has access to multiple items of communications data, step (d) involving using the URI to access said functionality and supply it with an indicator of the desired item of communications data which is then returned by the functionality.

68. (New) A server of the domain name system of the Internet, the server holding at least one resource record that provides a mapping from a domain name to an URI for locating communications data associated with the domain name, at least a substantial portion of the domain name being in the form of a number string that has been parsed into plural domain-name labels.

69. (New) A server according to claim 68, wherein said URI is an URL including an access scheme and host address for accessing said communications data.

70. (New) A method according to claim 68, wherein the communications data is a

communications endpoint address for the target entity.

71. (New) A server according to claim 69, wherein said number string is at least a substantial portion of a telephone number.

72. (New) A server according to claim 68, wherein said URI is of functionality that has access to multiple items of communications data.

73. (New) A server of the domain name system of the Internet, the server holding at least one resource record that provides a mapping from a domain name to an at least part-formed URL, including access scheme and host name, of an item of communications data associated with the domain name, at least a substantial portion of the domain name being in the form of a number string that has been parsed into plural domain-name labels.

74. (New) A server according to claim 73, wherein said number string is at least a substantial portion of a telephone number.

75. (New) A server of the domain name system of the Internet, the server holding at least one resource record that provides a mapping from a domain name to an URL of a resource that has access to multiple items of communications data, at least a substantial portion of the domain name being in the form of a number string that has been parsed into plural domain-name labels.

76. (New) A server according to claim 75, wherein said number string is at least a substantial portion of a telephone number.

77. (New) A DNS-type distributed database system holding at least one resource record that provides a mapping from a domain name to an URI for locating communications data associated with the domain name, at least a substantial portion of the domain name being in

the form of a number string that has been parsed into plural domain-name labels.

78. (New) A system according to claim 77, wherein said URI is an URL including an access scheme and host address for accessing said communications data.

79. (New) A system according to claim 77, wherein said number string is at least a substantial portion of a telephone number.

80. (New) A system according to claim 77, wherein said URI is of functionality that has access to multiple items of communications data.

REMARKS

The Claims in the parent application, USSN 09/077,795, were amended during IPE. A copy of IPE-amended Claims 1-18, which are being canceled by this preliminary amendment, are attached hereto. These claims were prosecuted in this divisional application's parent application.

New Claims 19-80 are added by this amendment. These claims recite, for example, holding an URI or URL for location communications data associated with a domain name. See, for example, new Claim 19.

Amendment of the subject application is respectfully requested.

Respectfully submitted,

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Enclosure: copy of IPE-amended Claims (pages 54-57)
Appendix A (8 pages)